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## Water Recycling Efforts Spark Policy Debate in California

In water-strapped southern California local authorities are exploring new approaches to water usage, launching new programs that send highly treated wastewater back into the groundwater supply to serve as drinking water.



JUDY WOODRUFF: Finally tonight, a very different way of dealing with water shortages in Southern California. NewsHour correspondent Jeffrey Kaye of KCET-Los Angeles reports.

JEFFREY KAYE, NewsHour Correspondent: In Orange County, California, officials thought their best chance for getting more water for the area's three million residents was going down the drain, billions of gallons of wastewater going to waste.

Then, local water and sanitation officials bought into an idea: turning that wastewater into clean drinking water.

MIKE MARKUS, Orange County Water District: This project is extremely important today, because the southland is facing a water crisis.

JEFFREY KAYE: Mike Markus is general manager of the Orange County Water District. He oversaw the design and construction of a recently opened water purification plant, the largest of its kind in the world.

MIKE MARKUS: It's important that we develop new water supplies locally so that we can help somewhat drought-proof this area. And that's exactly what this project does: It gives us a water supply that we have control over that will provide enough water for a half-million people in northern and central Orange County.

JEFFREY KAYE: But what would residents think of drinking water that had once been sewage, a program some critics called "toilet-to-tap"?

VIDEO NARRATOR: Orange County needs a new, reliable, and locally controlled supply of high-quality water.

JEFFREY KAYE: To sell the idea to the public, they produced informational videos and hosted community forums. The efforts paid off. There was nearly zero public opposition to the project, says sanitation board member and local City Councilman Larry Crandall.

LARRY CRANDALL, Orange County Sanitation Board: I believe it's because we taught them through educational resources to understand what the process is. And I believe that if you educate people about what it is, they're going to understand it. And if they understand it, they're going to accept it.



Mike Markus  
Orange County Water  
District

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## The purification process

JEFFREY KAYE: Orange County authorities used to pump partially cleaned wastewater into the ocean, but now 70 million gallons a day of that treated sewer water goes through a three-step purification process to make it fit for human consumption.

First, wastewater is forced through holes in tiny tubes in membranes. Each hole is 300 times smaller than a human hair.

MIKE MARKUS: So what it will do is it will remove any bacteria, protozoa, or suspended solids that are in the water.

JEFFREY KAYE: Is the water that comes out of this drinkable?

MIKE MARKUS: No, no, no, it's not drinkable. The water that comes out of here is actually equivalent to recycled water that would be used to irrigate golf courses or greenbelts.

JEFFREY KAYE: Next, pumps send the water to an area where stacks of white tubes contain thin plastic membranes. The water is forced through the membranes, which filter out minerals and remaining pollutants, including viruses and pharmaceuticals.

In the final step, the water is exposed to ultraviolet light and hydrogen peroxide. This process is supposed to assure that no trace organic materials remain in the water.

At this point, county officials insist the water is good enough to drink, but it doesn't go to people's homes just yet. Instead, half of it is

pumped into lakes, where it will eventually seep into the ground and replenish Orange County's massive groundwater aquifer.

MIKE MARKUS: After a period of time of about six months to a year, the various cities will then pump it out of the ground and put it directly into their water distribution systems for consumption.

JEFFREY KAYE: The rest of the water is used to fight off a huge threat to Orange County's aquifer, saltwater from the ocean leaching into the ground and contaminating the natural water supply. The reclaimed water is pumped into the ground near the coast to act as a barrier against the tide.



Jim Barrett  
San Diego County Water  
Authority

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## Raising health concerns

JEFFREY KAYE: Authorities run frequent tests on the recycled water and say it exceeds federal and state drinking water standards, but not everyone has embraced the notion of drinking former sewage.

In the city of San Diego, just south of Orange County, the largest newspaper editorialized, "Yuck: Your golden retriever may drink out of the toilet with no ill effects, but that doesn't mean humans should do the same."

Last year, San Diego Mayor Jerry Sanders vetoed a plan to create a wastewater recycling project.

Jim Barrett, director of the city's public utilities department, says instead of reclaiming sewer water, the mayor thought there would be more public support for water conservation plans and desalination plants.

JIM BARRETT, San Diego County Water Authority: I believe there is less resistance to drinking desalinated ocean water than there is to drinking reclaimed sewage water. I do believe there is a difference in the majority of people's minds, and it's the "yuck" factor.

JEFFREY KAYE: Barrett questions the safety of reclaimed water, and he says San Diego has other water project priorities.

JIM BARRETT: I've still got 190 miles of cast-iron pipe out of the 3,400 miles I own. I've got to get that out of the ground first. I've got to finish my treatment plants first before I feel I have the ability to go look at things like unproven, untested, unwanted reclaimed drinking water.

BRUCE REZNIK, San Diego Coastkeeper: I think they foment the criticism and the fear that they claim to be responding to.

## Other water sources under scrutiny

JEFFREY KAYE: Bruce Reznik is the executive director of San Diego Coastkeeper, a local environmental watchdog group. He embraces the term "toilet-to-tap" and says it's a cost-effective way for San Diego to partly provide for its own water needs.



Bruce Reznik  
San Diego Coastkeeper

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”

The city now gets about 90 percent of its water from Northern California and the Colorado River. Reznik says, if people are disgusted by the idea of drinking reclaimed wastewater, they should think about the quality of their current drinking water.

BRUCE REZNIK: Our water supply isn't clean and pure now. We might have some vision of some sparkling, pristine stream which is where we get our drinking water.

You look at the Colorado River, which is where we get about 40 percent of our drinking water. There are 400 million gallons of sewage discharges and over a billion gallons of other permitted discharges that go into the Colorado River before it ever reaches us.

So we need to get over the notion that we're already -- you know, we're drinking some kind of pure water and toilet-to-tap is something that's unsafe.

JEFFREY KAYE: Hostility towards recycling water in San Diego might be changing. The city council recently overrode the mayor's veto of a pilot wastewater reclamation plant.

Back in Orange County, officials hope to increase the output of their water reclamation facility. They've set a goal of an additional 15 million gallons a day within three years.

JUDY WOODRUFF: We have much more about the recycling of water on our Web site, including a place for you to ask questions. You can find it all at [PBS.org](http://PBS.org).